CLAIMS

1. Nucleotide sequence encoding a subunit of topoisomerase IV of Staphylococcus aureus.

2. Nucleotide sequence characterized in that it is chosen from:

(a) all or part of the grlA (SEQ ID No. 2) or grlB (SEQ ID No. 3) genes,

(b) the sequences hybridizing with all or part of the (a) genes and encoding a subunit of a topoisomerase IV, and

(c) the sequences derived from the (a) and (b) sequences because of the degeneracy of the genetic code.

3. Nucleotide sequence according to Claim 1 or 2, characterized in that it is the grlA gene (SEQ ID No. 2).

4. Nucleotide sequence according to Claim 1 or 2, characterized in that it is the grlB gene (SEQ ID No. 3).

5. Nucleotide sequence according to Claim 1 or 2, characterized in that it is the grlA gene having a mutation leading to a resistance towards molecules of the quinolone family.

6. Nucleotide sequence according to Claim 5, characterized in that it is the grlA gene having a base A as a substitution for a base C at position 2270 of SEQ ID No. 2.

7. R combinant DNA comprising a nucl otide

sequence according to on of Claims 1 to 6.

8. Autonomously replicating and/or integrative expression vector characterized in that it comprises a nucleotide sequence according to one of Claims 1 to 6.

9. Recombinant cell containing a nucleotide sequence according to one of Claims 1 to 6, a recombinant DNA according to Claim 7 and/or an expression vector according to Claim 8.

10. Cell according to Claim 8, characterized in that it is preferably a bacterium.

11. Polypeptide resulting from the expression of at least one sequence according to one of Claims 1 to 6.

12. Polypeptide comprising all or part of the polypeptide GrlA (SEQ ID No. 2), of the polypeptide GrlB (SEQ ID No. 3) or of a derivative thereof.

13. Polypeptide according to Claim 11 or 12, characterized in that it is the polypeptide GrlA (SEQ ID No. 2).

14. Polypeptide according to Claim 11 or 12, characterized in that it is the polypeptide GrlB (SEQ ID No. 3).

15. Polypeptide according to Claim 11 or 12, characterized in that it is the polypeptide GrlA(Ser-80→Tyr).

16. Process for the production of a polypeptide according to one of Claims 11 to 15,

charact riz d in that a r combinant cell according to Claim 9 or 10 is cultur d and th polypeptid produced is recovered.

17. Isolated topoisomerase IV characterized in that it is capable of being obtained from the expression of all or part of the grlA gene (SEQ ID No. 2) and of all or part of the grlB gene (SEQ ID No. 3), or of their respective derivatives as defined in b) and c) of Claim 2.

18. Isolated topoisomerase IV according to Claim 17, characterized in that it is derived from the expression of all or part of the grlA gene (SEQ ID No. 2) and of all or part of the grlB gene (SEQ ID No. 3).

19. Isolated topoisomerase IV, characterized in that it has the behaviour of a primary target towards the fluoroquinolones.

20. Isolated topoisomerase IV according to one of the preceding claims, characterized in that it is topoisomerase IV of Staphylococcus aureus.

21. Use of a topoisomerase IV according to one of Claims 17 to 20 to target biologically active products.

22. Use of a topoisomerase IV according to one of Claims 17 to 20 to search for products inhibiting th ATP-d p ndent DNA r laxing reaction.

23. Use of a topoisomeras IV according to one of Claims 17 to 20 for id ntifying products

inhibiting the reaction of decatanation f catenanes of DNA.